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EXAMINER

YAMNITZKY, MARIE ROSE

ART UNIT	PAPER NUMBER
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1774

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DATE MAILED: 05/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/995,608

Applicant(s)

TSUBOYAMA ET AL.

Examiner

Marie R. Yamnitzky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/29/01, 02/05/02, 03/05/02, 05/02/02 & 05/01/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 2-4, 11 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 5-10, 13 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-14 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5, 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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1. This application contains claims directed to the following patentably distinct species of the claimed invention: a metal coordination compound of formula (1) and a device comprising the compound wherein

M is one of Ir, Pt, Ph (Rh?) or Pd (in view of the specific examples set forth in the specification, it appears that "Ph" in the definition of M in the claims should be --Rh--); and

m is one of 1, 2 or 3; and

n is one of 0, 1 or 2; and

partial structure ML_m is one of formula (2) or (3) wherein CyN1 of formula (2) or CyN2 of formula (3) is one of Pr to Pz (second occurrence) as shown on page 35 of the specification, and CyC1 of formula (2) or CyC2 of formula (3) is one of Ph to Pz (first occurrence) as shown on page 35 of the specification; and

partial structure ML_n (if n is 1 or 2) is one of formula (4) or (5) wherein CyN3 of formula (4) is one of Pr to Pz (second occurrence) as shown on page 35 of the specification, and CyC3 of formula (4) is one of Ph to Pz (first occurrence) as shown on page 35 of the specification.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. In addition, applicant is required to select an ultimate species to be used as the starting point for search and examination purposes. Currently, claims 1, 10, 13 and 14 are generic.

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Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

2. During a telephone conversation with Jason Okun on May 01, 2003, a provisional election was made with traverse to prosecute the species in which M is Ir, m is 2, n is 1, partial structure ML_m is represented by formula (3) wherein CyN_2 is Pr and CyC_2 is Ph, and partial structure ML'_n is represented by formula (4) wherein CyN_3 is Pr and CyC_3 is Ph. Claims 1, 5-10, 13 and 14 read on the elected species. The compound of formula 48 as shown on page 25 of

the specification was selected as the ultimate species. Affirmation of this election must be made by applicant in replying to this Office action. Claims 2-4, 11 and 12 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected species.

(While some prior art is applied in the present action to non-elected species, this action should not be taken as an examination on the merits of all species encompassed by the claims.)

3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

4. The disclosure is objected to because of the following informalities:

Replacement pages 39 and 40, provided with the preliminary amendment filed May 01, 2003, have been entered but do not have sufficient margins. New replacement pages, having a top margin, a bottom margin and a right side margin of at least 2.0 cm (3/4 inch) each, and a left side margin of at least 2.5 cm (1 inch), are required. See MPEP 608.01 and 37 CFR 1.52.

Various of the examples refer to devices “prepared in the same manner as in Example 1 except that the metal coordination compound (Ex. Comp. No. 37) was charged to a metal coordination compound of...”. Emphasis added. For example, see Examples 4-9 (pp. 53-

56.) Applicant is requested to verify whether “charged” should read --changed--. If --changed-- is the correct word, the examiner will make the correction with applicant’s authorization.

Appropriate correction is required.

5. Claims 1, 5-10, 13 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims allow M to denote Ph. Ph is not a metal. In view of the specific examples set forth in the specification, it appears that “Ph” in the definition of M should be --Rh--.

The language “capable of including one or at least two non-neighboring methylene groups which can be replaced with...” as recited in claims 1 and 10 is confusing. The minimum and maximum number of methylene groups that can be replaced with --O--, --S--, etc. is not clear.

Claims 1 and 10 recite “CyN1 and CyC1 being connected via a covalent group containing X which is represented by --O--...” In this phrase, “is represented by” should read --represents-- since X is representing --O-- etc. rather than --O-- etc. representing X. The use of the open language “containing” in this phrase is also confusing because it is not clear what the covalent group could contain in addition to X.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1 and 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Maestri et al. in *Advances in Photochemistry*, Vol. 17, pp. 1-68.

Maestri et al. disclose Pt(ppz)(tpy) which is a metal coordination compound represented by present formula (1) wherein M represents Pt, each of m and n is 1, the partial structure ML_m is represented by present formula (3) and the partial structure ML'_n is represented by present formula (4). For example, see pages 4, 31 and 44-47.

8. Claims 1, 5-10, 13 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Grushin et al. (US 2002/0121638 A1).

Grushin et al. disclose iridium compounds for use as light emitting compounds in organic electroluminescent devices. The iridium compound of formula (X) as shown on page 4 of the published application is a metal coordination compound of present formula (1) in which M is Ir, m is 2, n is 1, partial structure ML_m is represented by formula (3) wherein CyN₂ is Pr and CyC₂ is Ph, and partial structure ML'_n is represented by formula (4) wherein CyN₃ is Pr and CyC₃ is Ph (Pr and Ph as shown on page 35 of the present specification).

The limitations of claims 5-10 are expected to be inherently met by Grushin's compound of formula (X). In particular, with respect to the limitations of claims 8 and 9, it is the examiner's position that it is reasonable to expect that the limitations are inherently met by the compound of formula (X) since the prior art compound contains three phenylpyrimidine ligands, two of which are substituted with fluorine-containing substituents, and the compound of formula 48 as shown on page 25 of the present specification, which contains three phenylpyrimidine ligands, two of which are substituted with fluorine, is disclosed as meeting the limitations of claims 8 and 9.

9. Claims 1, 5-10, 13 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Igarashi et al. (US 2001/0019782 A1).

Igarashi et al. disclose metal coordination compounds represented by present formula (1) in which M is Ir. The iridium compounds are disclosed for use as light emitting compounds in organic electroluminescent devices.

For example, the compounds represented by formulae (1-15), (1-41), (1-51), (1-56), (1-59), (2-9), (2-11), (2-14), (2-15), (2-17) and (2-20) in Igarashi's published application are compounds represented by present formula (1) in which M is Ir, m is 2, n is 1, partial structure ML_m is represented by formula (3) and partial structure ML'_n is represented by formula (4). The compounds represented by formulae (1-26), (1-28) and (1-35) in Igarashi's published application are also within the scope of the compound of present formula (1).

The limitations of claims 5-10 are expected to be inherently met by one or more of Igarashi's compounds represented by the formulae referenced in the preceding paragraph. For example, Igarashi's compound of formula (1-15) has the same ligands as the compound of formula 41 shown on page 24 of the specification and therefore must meet the limitations of at least claims 5 and 7. As another example, Igarashi's compound of formula (1-26) is the same as the compound of formula 49 shown on page 25 of the present specification and therefore must meet the limitations of at least claim 8.

The present application claims priority of three Japanese applications, one of which was filed prior to the U.S. filing date of Igarashi's application. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

10. Claims 1, 5-7, 10, 13 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Thompson et al. (US 2002/0034656 A1).

Thompson et al. disclose metal coordination compounds represented by present formula (1) in which M is Ir. The iridium compounds are disclosed for use as light emitting compounds in organic electroluminescent devices.

See Fig. 43 and Fig. 50. The specific iridium complex depicted in Fig. 43 is a compound represented by present formula (1) in which M is Ir, m is 2, n is 1, partial structure ML_m is represented by formula (3) and partial structure $ML'n$ is represented by formula (5).

Thompson's published application claims priority of several prior U.S. patent applications. The contents of Fig. 43 of the published application are disclosed in prior application 09/452,346, filed December 01, 1999.

11. Miscellaneous:

In line 2 of claims 8 and 9, "includes" should read --include--.

12. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Igarashi et al. (US 2002/0024293 A1) disclose an iridium compound within the scope of a compound represented by present formula (1). See formula (K-5) on page 7.

Grushin et al. (US 2002/0190250 A1) disclose additional iridium compounds not disclosed in the earlier '638 publication of Grushin et al. that is applied under 35 U.S.C. 102(e) in this Office action. The '250 publication is not available as prior art against the present claims with respect to the iridium compounds disclosed in the '250 publication but not disclosed in the '638 publication.

13. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (703) 308-4413. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

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The current fax numbers for Art Unit 1774 are (703) 872-9311 for official after final
faxes and (703) 872-9310 or (703) 305-5408 for all other official faxes. (Unofficial faxes to be
sent directly to examiner Yamnitzky can be sent to (703) 872-9041.)

MRY
05/23/03



MARIE YAMNITZKY
PRIMARY EXAMINER

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